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ABSTRACT

The document reports the second phase in a project to determine the relevant and important characteristics of effective teachers and deals with the identification of predictor constructs in the evaluation of vocational teachers. The objectives involved: (1) obtaining predictor constructs in the areas of biographic-demographic information about the teachers and schools, teachers' perceptions of their instructional and non-instructional tasks, their perceptions of their students' behavior, and students' perceptions of their teachers' behaviors; (2) obtaining a subjective-judgment criterion of teacher effectiveness (principals' rating) in the inner-city urban and outer-city suburban areas; and (3) determining the relationships between the predictor constructs and the criterion. Six questionnaires were used to establish both predictor constructs and criteria. The respondents were 337 high school vocational teachers in all areas selected nationwide from lists submitted by State supervisors and teacher educators, and the principals of the listed teachers. Ninety-five tables present the findings and data analysis. A discussion of the findings is followed by three conclusions and by recommendations relating to further study in search of performance-based criteria of teacher effectiveness and of dimensions of teacher behavior relating to teacher effectiveness. (Author/JB)

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VOCATIONAL TEACHING IN DIVERSE CULTURAL SETTINGS

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Research and Development Series No. 101

VOCATIONAL TEACHING IN DIVERSE CULTURAL SETTINGS

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FOREWORD

The task of determining what constitutes effective vocational teachers and teaching is an ambitious, but important, one. It involves the (1) determination of the criteria of effective teaching, (2) definition of the relevant characteristics of teachers and the teaching situation, and (3) assessment of the relationship between the two. This information would be valuable both to vocational teacher educators, who could use it in determining curricula, and to vocational education administrators, who could obtain guidance for hiring more effective teachers.

This report is concerned primarily with the second of these three steps; specifically, the ways in which vocational teachers and their students construe the teachers, teaching tasks, and student problem behavior. If the basic constructs of teacher and student attitude toward each other and toward the teaching tasks can be determined, these constructs could then be used to differentiate the more successful from the less successful teachers.

We are indebted to the authors of this report: to Edward Ferguson, former program director at The Center, for conceiving and designing the project and collecting the data; to Howard M. Guire, faculty member of the City University of New York, for organizing the data and conducting the initial analysis; to Michael Black, research and development specialist at The Center, for completing the data analysis; and to Michael Black and Curtis Finch, former program director at The Center, for writing the report.

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PROBLEM

One of the axioms of education is that teachers differ from one another in "quality"—some teachers are better than others. This raises the problem of determining in what ways the "better" teachers differ from the "poorer." The problem is important because without such information it is not possible to effectively select, supervise, train, or improve teachers, and thus to make the educational process more effective. The problem has been thoroughly reviewed by McNeil and Popham (1973).

The problem of determining the relevant and important characteristics of good teachers is an ambitious one which cannot be resolved within the limits of a single project. Such an effort requires at least three phases.

First, there is the question of determining what is meant by "good" teachers and teaching. The teaching process is expected to have some desirable effect on the students, to modify their cognitive or overt behavior in some way. They are expected, depending upon one's perspective, to get better grades on exams, be more successful in post-education employment, be better citizens, become "well-rounded" individuals, develop practical skills, or in some other way to be improved over their previous status. The first task, then, is to determine the criteria of effective teaching. The selection of the goals of any teaching situation are arbitrary, calling for value judgments to be made (Brown, 1966). Once selected, however, the development of adequate measuring devices to assess the occurrence of the desired change is an empirical matter.

Much research has relied upon subjective judgments of students and administrators as to the competence of teachers (McNeil and Popham, 1973). Such judgments, however, may not be highly related to actual performance of the students. Rodin and Rodin (1972) found that students learned the most from teachers whom they liked the least. Davidoff (1970) found little relationship between student opinion of teacher behavior and student gain. McNeil and Popham (1973) point out the weaknesses of supervisor ratings. The need for the development of performance-based measures of teacher effectiveness is clearly indicated, and is supported by a number of researchers, such as Astin and Lee (1966), Biddle and Ellena (1964), and Cohen and Brawer (1969).

Several questions need to be raised regarding the establishment of criteria. First, is effective teaching unidimensional or multidimensional? Most studies have assumed that an effective teacher is effective at all aspects of teaching, but there is no reason to suppose that this is any more than a working assumption, which may not be true. Second, is effective teaching universal, or specific to different situations and types of students? Again, most studies have assumed that an effective teacher is effective in any situation and with all students. It is plausible, however, that there is some interaction between teacher and situation. If so, strategies for maximizing teacher effectiveness would call for proper alignment of teachers and situations.

There are several possibilities for defining the situations with which teachers might interact. One set of possibilities of particular importance is that based upon demographic and socioeconomic

data. Do the most effective teaching strategies and/or teacher characteristics differ as a function of minority group membership, or membership in economically disadvantaged groups? If so, then perhaps special curricula or special teaching task forces should be established to work with those groups. If not, then such special programs now in existance or being planned could be dropped, and the resultant costs saved. Another possibility is that proper definition of the situations should be based upon an individual-differences model rather than overt demographic characteristics. Perhaps individual teacher characteristics and individual student characteristics are so aligned that it is necessary to develop a typology of both students and teachers. The proper "types" could then be matched so as to maximize teacher effectiveness.

The second phase of resolving this problem involves the identification of predictor constructs, which subsequently can be used to discriminate the more effective from the less effective teachers in varying situations. There are at least five domains of teacher and teaching characteristics which might discriminate: the tasks and techniques the teachers use; the attitudes and perceptions of teachers toward the students, the schools, and their jobs; the attitudes and perceptions of students toward the teachers, the schools, and the educational situation; the attitudes and perceptions of educational administrators toward the teachers, the students, and the educational situation; and, various demographic and biographic data on the teachers and the students. Since there are a vast number of specific characteristics in each domain, it is necessary to determine how these characteristics are organized and to identify the basic constructs underlying them. These constructs can then be related to measures of effective teaching.

A number of studies support the notion that the teacher's attitude toward students is important to his effectiveness (Anderson and Brown, 1946; Davidson and Lang, 1960; Goldberg, 1964; Kearney and Rocchio, 1955).

Other studies indicate the teacher's attitude may be particularly crucial where dealing with minority and disadvantaged groups. Some argue that positive teacher attitudes are more needed among the disadvantaged than among any other group (Goldberg, 1964; Schueler, 1965). Unfortunately, the attitude of teachers toward the educationally deprived child often appears to be negative (Becker, 1952; Berg, 1964).

Haubrich (1963) raised serious questions about the adequacy of traditional teacher preparation as a course for the insights, understandings, and attitudes needed for working with youth from culturally disadvantaged homes and neighborhoods. He concluded that:

> The new teacher rejects the situation (in the urban school) because of an inability to comprehend, understand, and cope with the multiple problems of language development, varying social norms, habits not accepted by the teacher, behavior which is often not success oriented, lack of student "cooperation," and achievement levels well below the expectancies of teachers (163-67).

Lockette (1970) contended that efforts spent developing instructional materials and instructional strategies would be ineffective unless a more favorable attitude of teachers toward disadvantaged youth could be developed.

Thomas (1965) stated that the teacher's attitude was different toward middle- and upper-class children:

> In the typical classroom the upper- and middle-class pupils tend to receive more advantageous treatment from the teacher than do the lower-class children. This is caused primarily by the fact that certain attitudes and behavior that affect classroom relationships are different in the subcultures of the different social strata, and middle-class teachers tend to favor traits of middle- and upper-class pupils. . . . There are, of course, teachers who try to understand the subculture characteristics of the pupils and to treat them as individuals despite differences in social-class characteristics. But the tendency is for most teachers to favor behavior more typical of higher classes.

Becker (1952) noted that teachers' satisfaction with their work was related to their expectations of the children with whom they worked. Among the sixty Chicago public school teachers included in the Becker study, the areas of greatest job dissatisfaction involved the failure of the children to meet the teachers' expectations. Conflict arose when the behavior of the lower-class children did not meet the teachers' expectations of interest, hard work, and training at home.

Strom (1965) stated that it is the teacher's attitude and not the student-teacher ratio which affects classroom rapport and is instrumental in the transfer of teacher motivation to the students. The studies by Rosenthal and Jacobson (1968) tested the hypothesis that the expectations of teachers effect the intellectual development of students. Their research demonstrated that students learn what teachers expect them to learn.

The third phase is the actual determination of the relationships between the predictor constructs and the criterion measures. On the basis of these relationships, the distinguishing features of effective teachers and teaching can be determined.

If the above information were available, both a basic-science and a practical need would be served. The new information could be related to existing educational theory and further the development of theories of effective teaching, which ultimately could be instrumental in the improvement of teaching methodology. The information could also have an immediate effect on the delivery of educational services. It could be utilized to aid in the selection of teachers, to aid in the assignment of teachers to various situations, to aid teachers in improving their performance, and to aid in the education of teachers. Specific guidelines and materials could be developed for distribution to the educational community to aid its members in the above tasks, which would result in improved effectiveness of the educational system and greater success and satisfaction by students.

It should be emphasized that the identification of the distinguishing characteristics of effective teachers and teaching does not in any way imply the necessity of a causal relationship. It is altogether possible that the effective teachers may be so for reasons other than the possession or practice of the identified characteristics. Nevertheless, the isolation of such characteristics is an important first step. One must first know what effective teachers do and what their personal characteristics are before one can inquire whether their effectiveness is the result of those practices and traits. These facts are also needed to generate hypotheses for later experimental research on causal relationships.

OBJECTIVES

The purpose of the present study was primarily to deal with the second phase of the problem: the establishment of predictor constructs. The relationship of these constructs to a simple, subjective-judgment type of effectiveness criterion in different cultural settings was also investigated, although the authors believe that performance-based criteria are necessary before any such relationships can be optimally meaningful.

The specific objectives of the present study were to determine some of the characteristics of effective vocational teachers in two cultural settings, by means of (1) obtaining predictor constructs in each of four domains: biographic-demographic information about the teachers and schools, teachers' perceptions of their instructional and non-instructional tasks, teachers' perceptions of their students' behavior, and students' perceptions of their teachers' behavior; (2) obtaining a subjective-judgment criterion of teacher effectiveness (principals' rating) in two cultural settings (inner-city urban, outer-city suburban); and (3) determining the relationships between the predictor constructs and the criterion.

METHOD

The general strategy of the study was to establish predictor constructs by assessing the teachers' attitudes toward and perceptions of their own instructional and non-instructional tasks and their students' problem behavior, assessing the students' attitudes toward and perceptions of their teachers' behavior, and by obtaining self-report biographic and demographic data from the teachers. Each of these domains was assessed by means of Likert-type rating scales responded to by the students and teachers. Each set of data was then factor analyzed to determine its basic dimensions.

A "supervisor's global judgment" type of criterion was established by obtaining ratings from principals on several broad teacher activities or characteristics presumed to be necessary for effective teaching. The cultural setting of each school was also determined and a two-way criterion established.

The relationships between the predictor constructs and the criterion was determined.

Instruments

Five rating-scale instruments were developed and refined. Prior to this study, instruments had been developed and tested with a nationwide population of distributive education teachers (Ferguson, 1972). As those research data were analyzed, the instruments used in the prior study were strengthened to provide the framework on which to build the instruments needed to carry on the present research with a more expanded population in vocational teacher education.

Questionnaire 1 contained sixty-three items of biographic and demographic data about the teachers and their schools.

Questionnaire 2 contained 177 teacher activities which were performed during class sessions or were directly related to class session activities. Each item was rated by teachers on three 5-point Likert-type scales: (1) the perceived importance of the activity to the teacher, (2) the perceived frequency with which the teacher engaged in the activity, and (3) the perceived effectiveness of the teacher in carrying out the activity. The respondents were also given an opportunity to add additional tasks and comments, though this information was not used in the present project.

Questionnaire 3 contained 107 teacher activities which were performed outside class sessions. The scales and format were the same as for Questionnaire 2.

Questionnaire 4 contained 140 items of students' problem behavior. Each item was rated by teachers on three 5-point Likert-type scales: (1) the perceived importance of each item (i.e., whether the behavior was viewed as good or bad, and to what degree of seriousness), (2) the perceived frequency with which the teacher encountered the behavior, and (3) the perceived effectiveness of the teacher at dealing with the behavior.

Questionnaire 5 contained fifty items of teacher behavior. Each item was rated by the teachers' students on a 4-point Likert-type scale as to how characteristic each item was of that teacher.

Questionnaire 6 contained ten broad teacher activities or charcteristics presumed to be necessary for effective teaching. Each item was rated by each teacher's principal on a 4-point Likert-type scale as to how characteristic each item was of the teacher being rated. There was also an eleventh item asking the principal to indicate, on a 5-point scale, his overall judgment of the teacher's effectiveness.

The items used on the questionnaires were selected from a search of the literature and from previous research.

The six questionnaires are presented in Appendices 1-6. Questionnaires 1-5 were used to establish the predictor constructs, while Questionnaire 6 and the first item of Questionnaire 1 were used to establish the criteria.

Respondents

The respondents were 337 high school vocational teachers in trade and industrial education, business and office education, and home economics education selected from all fifty states and the District of Columbia. The teachers in each field were divided into successful and general population groups, as well as into inner-city urban and outer-city suburban groups, to establish the criteria. The distribution of respondents by criterion groups is presented in Table 1.

Sampling Procedure

Letters were sent to all state supervisors and teacher educators of business education, technical and industrial education, and home economics education, whose names appeared in an official directory published by the U.S. Office of Education, Division of Vocational and Technical Education. Recipients were asked to supply the names and addresses to ten highly successful teachers in each of the three fields. Responses were received from 537 supervisors and educators.

A total listing of teachers' names was then compiled by states. Each state supervisor was sent the names of all teachers submitted from his/her state for verification. He/she was then asked to randomly select ten additional teachers from the state listing in each field whose names had not appeared on the original list. These teachers were used as a comparison group in the study.

The principal of each teacher named in the sample of successful and comparison teachers was then contacted. The principal was asked to respond to Questionnaire 6. A total of 1892 rating forms was returned.

Questionnaire 6 was scored by summing the eleven items, and invitations to participate in the study were sent initially to the teachers with the eighty highest scores in the successful teacher group and to teachers with the eighty lowest ratings in the comparison group, who were to be paid

$50 for their cooperation. Additional teachers were selected in the same manner later when some teachers were found to have primarily administrative duties, to have changed jobs, or to have no interest in participating in the project.

Three hundred ninety-eight teachers agreed to participate in the project and 337 teachers completed the entire project.

The sampling procedure is summarized in Table 2. Copies of all correspondence used have been published previously (Ferguson, 1972).

Research Procedure

The battery of five questionnaires was mailed to each of the participating teachers, who were instructed to complete and return it by a specified date. Upon return of the questionnaires, the teacher was mailed $50 for his participation.

Data Analysis

Each questionnaire (except 6) and each scale where applicable, were factor analyzed separately. Principal components of each questionnaire were obtained (Harman, 1967). Inspection of the eigenvalue graphs indicated the approximate number of factors to rotate. This decision was made by locating the point at which the graph approximated a straight line (Cattel, 1966). That number, plus a few more and less, were rotated to the binormamin criterion of simple structure (oblique). Inspection of the rotated factors led to the final decision of the number of factors to rotate. This decision was based upon a judgment as to which of several solutions yielded the clearest factor pattern. The same number of factors were rotated for all three scales of any one questionnaire.

Factor scores were estimated by the regression method for all respondents (Harman, 1967). A multiple regression analysis was done, regressing the factors of questionnaires 2-5 against each of three criteria: succesful teachers vs. comparison teachers; inner-city urban teachers vs. outer-city suburban teachers; and successful, inner-city urban teachers vs. all others. The factors of questionnaire 1 were regressed against the criterion only, since any relationship between geographic location and demographic data would be a trivial finding.

On some of the questionnaires, not all of the items were included in the data analysis. Items on which more than 25 percent of the respondents made no response were eliminated. (On other items, missing responses were replaced with the mean of the variable.) In some cases it was necessary to reduce the total number of variables in order to fit within the space limitations of certain computer programs which it was necessary to use. This was accomplished by random sampling from the total item pool those items which were to be discarded. The remaining subsample was thus as representative as possible of the total item sample.

Scores on the eleven items of questionnaire 6 were added to yield a "principal's judgment" criterion of effectiveness.

RESULTS

A list of all factors obtained is presented in Table 3. The variances of the principal components are presented in Tables 4-14. The salient loadings ($\geq .38$) of the rotated factors, and the factor interrelations (casines of angles between factor vectors), are presented in Tables 15-95.

Questionnaire 1 – Biographic-Demographic Data

On Questionnaire 1, six factors were obtained. Forty-seven of the original sixty-three items were included in the analysis. The first three factors are demographic, and the last three are biographic. Factors I and II are both socioeconomic level factors. Factor I is Upper-Income Students, Factor II is Lower-Income Students. Factor III, labeled School and Town Size, is comprised of a cluster of variables describing large schools in large town versus small schools in small towns.

Factors IV and V are both teacher experience factors. Factor IV, labeled Pre-Teaching Experience, indicates teachers who have had much experience prior to becoming teachers. These teachers tend to be male. Factor V, labeled Teaching Experience, indicates teachers who have had much experience as teachers. Teacher's sex does not load on this factor as it did on Factor IV.

Factor VI was labeled Teachers Birth Order, as it indicates teachers who were later born and who have a larger number of siblings. The later born teachers tend to be teachers of black students, but it is not known whether the teachers are themselves black. (Item 10, Teacher's Race, was deleted for excessive missing data.) No substantial correlations occurred among any of the six factors.

Questionnaires 2, 3, and 4 each consisted of three scales which were analyzed separately. In many cases, there was a great deal of interpretive similarity, but not necessarily mathematical identity, between the factors derived from the three scales of any one questionnaire. In order to facilitate interpretation, the factors for each questionnaire are presented in clusters, indicated by Roman numerals. Factors were considered as belonging to the same cluster and given the same Roman numeral if their interpretations indicated a common theme even though some interpretive distinction could be made among them. Different factors within the clusters are indicated by capital letters following the Roman numeral. Factors were considered interpretively identical and given the same Roman numeral and capital letter if the authors could determine no interpretive differences among them.

Questionnaire 2 – Teachers' Perceptions of Their Classroom and Related Activities

One hundred fifty of the original 177 items were included in the analysis. Seven factors were rotated on each scale, resulting in a total of thirteen distinct factors on the three scales, and containing five clusters. The first three were teaching styles.

Cluster I was identified as Student-Oriented Teaching Style. All of the factors in this cluster were concerned with some aspect of orienting activities around the students themselves.

Factors IA, IB, and IC appeared only on the Importance (I) scale. Factor IA, labeled Student-Centered Instruction, indicates direct instructional activities oriented around the interests and needs of the students in the aggregate. Factor IB, labeled Individualized Instruction and Evaluation, concerns both types of activities, but the emphasis here is on individual differences, rather than students in the aggregate. Factor IC, labeled Analysis of Student Progress, again indicates activity focused on the student, but here the theme seems to be watching the students' activities and analyzing the antecedents and consequences of these activities.

On the Frequency (F) scale, the same three factors seem to have appeared in a reorganized form. Factor ID, Student Accountability, appeared previously as parts of IA and IC. The factor indicates a teacher who gives his instructions, encourages active student participation, and then holds the students responsible for the material presented. Factor IE, Student-Centered and Individualized Instruction, seems to be a merger of IA and the "instruction" part of IB. Factor IF, Individualized Evaluation, appears to be the remaining "evaluation" part of IB. Apparently the perceptual organization of what the teachers regard as important and what they actually do is somewhat different. In terms of importance, concern for students in the aggregate and concern for individual differences appear on independent factors, but in terms of frequency of occurrence there is some blending of the two. The separating principle here seems to be, instead, instruction versus evaluation, which appear on different factors. Since most teachers are not totally free to do only what they consider important, this discrepency is not surprising. None of the factors in this cluster show any substantial within-scale intercorrelations.

The only member of this cluster to appear on the Effectiveness (E) scale is IE. Apparently, this is the only student-oriented issue on which teachers perceive any differential effectiveness.

Cluster II consisted of only Factor II, Non-Directive Instruction, which appears on all three scales. This is the second of the three teaching styles identified. While the previous style utilized the student as the focal point of the classroom, this style seems to focus around a particular process of teaching. The process involved seems to be a non-directive, Socratic style of teaching. Heavy use is made of open-ended activities such as essay tests, case problems, discussion sessions, and student reports, as well as encouragement of inductive thinking.

Cluster III identifies the third teaching style, labeled Performance-Oriented Teaching Style. The class focus for this teaching-style seems to be the material to be learned. The emphasis is neither on the students nor the process, but on the results or the performance of the students.

Only one factor appears on each scale. On the I-scale, Factor IIIA was labeled Performance-Oriented Instruction. The emphasis of the salient activities is on getting the right answer, (or which there is only one), performing, competing, and being motivated by external rewards. It is interesting, but not surprising, that the teacher who emphasizes results also emphasizes competition and external motivation. It appears to be the "commercial ethic" so prevalent in Western society embedded in an educational setting. On the F-scale and E-scale, Factor IIIB, labeled Performance-Oriented Evaluation, is the only representative of this cluster. It is an attenuated version of IIIA.

The competition and evaluation activities are still salient, but the instruction and motivation aspects have been much weakened or have vanished.

The three teaching styles are independent, in terms of both perceived importance and perceived frequency. In terms of perceived effectiveness, however, there is some tendency for teachers who see themselves as effective at Performance-Oriented Evaluation to also see themselves as effective at the other two teaching styles, as indicated by correlations of .45 and .40. These correlations are not strong, however, and the other two teaching styles are independent of each other.

Factor IV, Lesson Preparation, is a single factor appearing on all three scales. The salient variables concern some form of preparation for class, as opposed to the actual conduct of the class.

Cluster V was identified as a Discipline and Control cluster, since it is concerned with teacher activities related to student problem behavior. Factor VA was the only factor to appear on the I-scale, and was labeled Handling Student Discipline Problems. The salient activities all concerned dealing with student problem behavior at the time of its occurrence. Its counterpart on the F-scale was Factor VB, Understanding, Anticipating, and Handling Student Discipline Problems. On this factor there is the addition of activities concerned with understanding the reasons for and preparing for student discipline problems, as well as handling them at the time of occurrence. On the E-scale, both types of activities appear, but as separate factors: Factor VA, Handling Student Discipline, and VC, Understanding and Anticipating Student Discipline Problems. Apparently, while both on-the-spot handling and preparation occur jointly, the teachers' perceived effectiveness at these tasks is independent. As to importance, the teachers seem to be concerned only with the issue of handling student discipline, and either ignore or are in agreement upon preparation activities.

On both the I-scale and the F-scale all factors are essentially independent. On the E-scale there are some low-moderate relationships among the factors. Teachers have a weak tendency to view themselves as equally effective at Understanding and Anticipating Student Discipline Problems (VC), Student-Centered and Individualized Instruction (IE), and Performance-Oriented Evaluation (IIIB). Handling Student Discipline Problems (VA) is also weakly related to IIIB and IE, as is Non-Directive Instruction (II) to IIIB and Lesson Preparation (IV) to IE. These correlations probably represent a weak halo effect.

Questionnaire 3 — Teachers' Perceptions of Their Ancillary Activities

Seventy-seven of the original 107 variables were included in the analysis. Seven factors were rotated on each scale, resulting in a total of twelve distinct factors, and containing nine clusters.

Cluster I was labeled Counseling and Guidance, as all were related to some aspect of personal counseling of students. Factor IA, which appeared only on the I-scale, was the most general. The salient variables referred to some form of advice-giving to students. On the F-scale, however, the factor broke into two parts. Factor IB, labeled Formal Student Counseling, appeared to be mainly activities of a more formal or serious nature, such as giving and interpreting standardized tests, contacting dropouts and visiting students' homes. Factor IC, labeled Informal Student Counseling,

consisted of the more "garden variety" forms of advice-giving that could well be done during informal chats after class, or without much previous planning. Apparently, teachers consider both types of counseling jointly with respect to their importance, but they actually occur independently. This might be expected, since the salient activities on Factor IB require special training and/or special allotments of time. Only Factor IB appears on the E-scale, indicating that, while there is perceived differential effectiveness for the more formal counseling activities, the less formal either do not covary or teachers perceive themselves as equally effective.

Factor II is a single factor appearing on all three scales. It was labeled Materials and Equipment Management as the salient activities had to do with procuring, scheduling, and storing instructional equipment.

Factor III, another single factor appearing on all three scales, was labeled Professional Activities. The salient activities concerned maintaining oneself as a member of the teaching profession, such as attending meetings of professional organizations, maintaining membership in such organizations, doing research, and keeping informed of professional developments.

Cluster IV concerned activities of an office-administrative nature. Factor IVA, Administrative Activities, appeared on the I-scale and the F-scale. The salient activities were all various administrative duties. On the E-scale, an attenuated version, Factor IVB appeared. It concerned primarily student job-placement activities.

Factor V was again a single factor appearing on all scales. It was labeled Audiovisual Equipment Operation, and its salient variables concerned just that.

Factor VI, Miscellaneous Non-Instructional Activities, appeared on the I-scale and the E-scale, but had no counterpart on the F-scale. Apparently these types of activities coalesce in terms of the teachers' perceived importance or effectiveness, but not in terms of their actual occurrence; or possibly, all teachers engage in them to the same extent.

Factor VII, Laboratory Safety Activities, is comprised of activities related to the maintanence of safety in the laboratory. It appears only on the I-scale and the F-scale. It is apparently not an "effectiveness" issue.

Factor VIII appears only on the E-scale, and is labeled Interpersonal Relationships. The salient variables are concerned with establishing and maintaining sound relationships with students, peers, and superiors.

Factor IX also appears only on the E-scale. It was labeled Selecting and Maintaining Instructional Materials. The salient activities concern determining the need for such materials, and obtaining, filing, and storing them.

With the exception of Miscellaneous Non-Instructional Activities (VI) and Laboratory Safety Activities (VII), the factors of the I-scale all intercorrelate positively, but weakly. On the F-scale, the factors are all substantially independent. On the E-scale, there is a weak intercorrelation among Professional Activities (III), Miscellaneous Non-Instructional Activities (VI), and Placement Activities (IVB). The correlation between the last two is somewhat stronger ($r = .47$). Not surprisingly,

teachers who perceive themselves as effective at Materials and Equipment Management (II) also tend to perceive themselves as effective at Audiovisual Equipment Operation (V) (r = .49).

Questionnaire 4 — Teachers' Perception of Students' Behavior Problems

On the I-scale and F-scale, all 140 items were included, but on the E-scale only sixty-one of the original 140 items could be retained.

Seven factors on each scale were rotated resulting in a total of seventeen distinct factors and containing two clusters. With one exception, the factors appearing on the E-scale were completely different than those appearing on the I-scale and F-scale. The E-scale, however, is not comparable with the other two since the sixty-one variables included in the analysis are a subsample of the original 140. Thus, the result is a factoring of sixty-one student behavior problems which actually occur with some reasonable frequency.

Cluster I was labeled Criminal and Quasi-Criminal Misbehavior because the salient activities were of a sort which could lead to prosecution as a felony or misdemeanor. Factor IA, which appeared on the I-scale only, was given the same label as the cluster name, Criminal and Quasi-Criminal Misbehaviors. The salient activities included such things as assualt, possession of narcotics, possession of firearms, arson, and theft. On the F-scale, the factor split in two. Factor IB, Violent Criminal and Quasi-Criminal Misbehavior, contains the more violent or potentially violent types of activities salient in IA, while Factor IC, Non-Violent Criminal and Quasi-Criminal Misbehavior, contains the non-violent activities such as theft, narcotics possession, and smoking on school grounds. While these two types of criminal activities occur independently, it appears that the teachers consider their importance jointly.

Factor II, Verbal and Symbolic Misbehavior, appears on both scales. The salient activities are all forms of misbehavior which are either verbalizations or some other form of symbolism such as drawing pictures or making gestures.

Cluster III was labeled Non-Criminal Physical Misbehaviors because the salient activities involve acting-out, but are not of a criminal nature. Factor IIIA, which appears on the I-scale only, involves mainly throwing things around and other misuses of facilities. It was labeled Destructive and Unsafe Behavior. Its counterpart on the F-scale, Factor IIIB, was labeled Horseplay, as it seems to be a more toned-down version of non-criminal acting out. Here the theme seems to be mere "horsing around" rather than destructiveness. It loads such activities as spitting, shoving, pulling chairs, and belching, as well as throwing things.

Factor IV, labeled Inconsiderate and Negligent Behavior, appears on both scales. This factor consists of minor disturbances which might annoy teachers, but which probably are engaged in spontaneously without a deliberate attempt to be annoying. Examples are clicking pens, shuffling feet, dropping books, and whispering.

Factor V, labeled Improper Appearance, appears on both scales. The salient activities concern such things as wearing inappropriate clothing, hair cut improperly, kissing, holding hands, and in other ways "looking improper."

Factor VI, labeled Neglect of School Work, appears on the I-scale only. The salient activities generally concern failure to carry out one's school work properly. It is a passive misbehavior factor, as it does not involve much activity by the student, but rather a lack of activity.

Factor VII, Grooming in Class, appears on the I-scale only, and concerns such things as combing hair and putting on make-up in class.

Factor VIII is unusual in that it appears on the F-scale and the E-scale, but not on the I-scale. It was labeled Cheating because the salient activities are all some form of cheating.

The remaining factors all appeared on the E-scale only.

Factor IX, Lack of Classroom Cooperation, describes an active uncooperativeness by the students, involving complaints, irrelevant questions, messiness, and verbal disruptions.

Factor X, Inattentiveness, involves the students engaging in distracting activities during class and not paying attention.

Factor XI, Rebelliousness, is an even more active form of non-cooperation, or even counter-cooperation, involving insubordination, rebelling, arguing, and sassing.

Factor XII, Disrespect for Other Students, involves activities directed against other students.

Factor XIII, Messiness, involves various forms of slovenliness.

Factor XIV, Common Minor Misbehaviors, load variables which have little in common except that they are the most commonplace and least serious of "misbehaviors:" smoking, gum chewing, and writing graffiti on desk tops.

On the I-scale, all factors except Grooming in Class (VII) and Distructive and Unsafe Behavior (IIIA) intercorrelate to a moderate extent. The correlations range from .39 to .65. VII has a very slight correlation with two members of this group. It appears that the relative importance of most student behavior problems tend to be considered jointly by teachers. Their actual occurrence, however, is largely independent. On the F-scale, the only substantial correlation is between Cheating (VIII) and Improper Appearance (V). The less "prim and proper" students cheat more. On the E-scale, there is again a moderate intercorrelation among all the factors except Cheating (VIII) and Common Minor Misbehaviors (XIV) with the correlations ranging from .32 to .49. These intercorrelations are not as strong as on the I-scale, but indicate some tendency for teachers to consider themselves jointly effective at dealing with most student behavior.

Questionnaire 5 — Students' Perceptions of Teachers' Behaviors

All fifty items were included in the analysis.

Six factors were rotated on this questionnaire.

Factor I was labeled Authoritarianism. The salient variables describe a teacher who is very directive, acts superior and haughty, ignores the students, and seems tense. At the same time, he is perceived as quick at problem-solving and decision-making.

Factor II was labeled Hostility. The salient variables describe a teacher who is actively hostile toward the students. He is mean, cold, arrogant, and makes students angry and nervous.

Factor III, Friendliness, describes the teacher who likes students and is friendly towards them in informal ways. He is also willing to listen to them.

Factor IV was labeled Student—orientation. The salient variables portray the teacher who orients his classes around the needs and interests of the students. It appears similar to the Student-Oriented Teaching Style cluster of Questionnaire 2.

Factor V, labeled Dynamism, seems to be primarily concerned with the energy of the teacher. He snaps out answers, gets attention, is forceful and confident, and has a unique style. While it is not clearly similar, the tone of this factor is reminiscent of the Performance-Oriented Teaching Style cluster of Questionnaire 2.

Factor VI, with some hesitation because of the very broad connotation of the term, was labeled Effectiveness; but from the students' perspective that is what it seems to be. While the other factors all concern the teacher's personality or his teaching process, the theme of this factor is that he gets results, he explains things clearly and gets his point across, is fair to the students, encourages them, and is well-organized.

Factors II, III, IV, and VI are weakly to moderately intercorrelated (r = .32-.53). There seems to be some tendency for students to view a teacher as either friendly, student-oriented, effective and not hostile, or the reverse. Dynamism (V) is slightly correlated with Friendliness (III) (r = .37), and Authoritarianism (I) is very weakly correlated with Dynamism (V).

None of the factors correlated significantly with any of the criteria.

DISCUSSION

The results generally confirm the authors' hypothesis that the teachers' and students' perceptions of their activities are organized into a relatively small number of basic dimensions. It is therefore not necessary to treat each activity as a separate entity. Each set of factors accounts for an average of 47.7 percent of the observed variance of its questionnaire, ranging from a low of 31.8 percent for Questionnaire 2, F-scale, to a high of 73.4 percent for Questionnaire 5. Assuming that the reliable variance of each questionnaire is not more than 80 percent of the total variance, the factors obtained account for about 60 percent of the reliable variance.

Some of the factors seem to be merely a confirmation of what is already known, or mere empirical facts, except as they may be determinors of effective teaching, while others are of theoretical interest in their own right. The emergence of a Teacher Birth Order factor on Questionnaire 1 and the loading of "Percent of Negro Students" on it is surprising. It is not known whether the teachers are themselves black, since well over half the respondents did not answer the "teachers' race" item. If they are, then the explanation might lie in the possibility that black families tend to be larger than white and therefore produce more later-born children.

The most interesting factors occur on Questionnaire 2. While there is some reorganization from one scale to the others, three distinct styles of teaching emerge: student-centered, non-directive, and performance-oriented. While educators have long talked about styles of teaching, these results empirically confirm that teachers actually do organize their attitudes and their actions (or at least their perceptions of their actions) around teaching styles. Further, the three styles are independent of each other with respect to importance and frequency, and only modestly correlated with respect to effectiveness. This demonstrates that the teaching styles are not teacher types. The teacher attitudes and actions with respect to one style have no bearing on his attitudes and actions with respect to another style. He may favor and use one, both, or all three styles. This raises the possibility that some optimum combination of teaching styles may relate to teaching effectiveness, and it would be important to determine the conditions under which effective teachers use various teaching styles.

The Questionnaire 5 factors are also of some theoretical interest. These, too, are styles of teacher behavior which may have some bearing on his effectiveness, but in this case the styles are more personal. They reflect more the personal mannerisms of the teacher than his instructional activities. The intercorrelations among the factors indicate that, to some extent, the students consider the effective teacher as one who is friendly, student-oriented, and not hostile. However, the Rodin and Rodin (1972) and Davidoff (1970) findings indicate that student opinion is not a very good criterion of teacher effectiveness.

The fact that none of the factors correlated with any of the criteria of teacher effectiveness supports the authors' hypothesis that subjective judgment of supervisors is probably not a useful criterion. Some apocryphal evidence also supports this contention. The principal of each teacher was asked to fill out a long rating form of 165 variables (which was not subsequently utilized in

the study) in addition to the short-form Questionnaire 5. Inspection of the standard deviations of the individual items showed that they were suspiciously small. Subsequent inspection of the rating forms indicated that most of the principals had rated their teacher either with fives on nearly all of the 165 items, or with ones on those items. Despite the fact that the items were quite diverse, the principals responded with nothing but a massive global judgment, completely failing to discriminate among the items. It is probable that the principals really are not very familiar with their teachers' work and are forced to fall back on global impressions. In many schools, the principal has little or no opportunity to observe his teaching and may have little contact with him outside of routine meetings. This further underscores the necessity of developing performance-based criteria of teacher effectiveness.

The failure of the factors to distinguish the two cultural settings may be due to nothing more than the failure of geographic location to adequately delineate the two settings. The two socioeconomic levels sought did appear as factors on Questionnaire 1, but Item 1, the criterion variable, did not load on either. Apparently, both socioeconomic levels exist in both inner-city urban and outer-city suburban areas. Factors I, II, and III could themselves be used as the cultural-setting criterion, and will be used in future research.

CONCLUSIONS

It can be concluded from the present study that:

1. The attitudes and perceptions of teachers and students concerning their activities are organized into a relatively small number of basic dimensions, and therefore specific activities should not be considered in isolation.

2. The existence of different teaching styles is supported.

3. Subjective judgments by supervisors concerning teacher effectiveness is probably not a useful criterion.

Implications and Recommendations

Many of the factors found would be expected to have some relationship to teaching effectiveness since they are prima facie descriptions of the organization (as perceived by teachers and students) of teachers' activities and attitudes. It is inconceivable that what the teacher does, and highly unlikely that what he thinks, have no bearing on his effectiveness. The failure to find any such relationship in the present study implies the lack of a suitable criterion, as previously discussed. Research should be directed toward (1) confirming the factors obtained by assessing their reliability and their presence in a broad population of teachers, (2) investigating the possibility of different factors occuring in different subpopulations of teachers, (3) validating the factors, based in this study on self-report, by objective observation of teachers' activities, and (4) developing performance-based measures of teaching effectiveness.

The study also has some implications for teacher education and selection, although specific recommendations at this time would be premature and must wait upon the results of further research. If future research confirms the existence and generality of the dimensions of teacher behavior reported here, or some comparable set, and if these dimensions do relate to teaching effectiveness, then recommendations would be in order. If a causal relationship were established, then teacher education programs should be oriented around teaching the skills represented by the dimensions. If no causal relationship can be established, the dimensions could still be used as a basis for teacher selection.

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Table 1

Distribution of Respondents by Criterion Group

	Inner City Urban	Outer City Suburban
Successful	83	86
General Population	84	84

Table 2

Summary of Sampling Procedure

Sampling Procedure	Trade & Industrial Education	Business Education	Home Economics Education	Total
State supervisors and teacher educators contacted	249	359	565	1173
Number who responded	146	185	206	537
Total number of teachers' names submitted by respondents	944	1176	982	3102
Principals contacted for rating of teachers	944	1176	982	3102
Number of rating forms returned by principals	709	303	880	1892
Number of teachers asked to participate in the project	240	168	189	597
Number of teachers who agreed to participate in the project	143	122	133	398
Number of teachers who completed the entire project	120	98	119	337

Table 3

List of Factors and Factor Clusters

Questionnaire 1	Demographic and Biographic Information
I	Upper-Income Student
II	Lower-Income Students
III	School and Town Size
IV	Pre-Teaching Experience
V	Teaching Experience
VI	Teacher Birth Order
Questionnaire 2	Teachers' Instructional Activities
Cluster I	Student-Centered Teaching Style
IA	Student-Centered Instruction (I)[1]
IB	Individualized Evaluation and Instruction (I)
IC	Analysis of Student Progress (I)
ID	Student Accountability (F)
IE	Student-Centered and Individualized Instruction (F, E)
IF	Individualized Evaluation (F)
Cluster II	Non-Directive Teaching Style
II	Non-Directive Instruction (I, F, E)

[1]The letters in parentheses to the right of the factor names indicate the scales on which the factor appears.

Questionnaire 2 (cont.)

Cluster III	Performance-Oriented Teaching Style
IIIA	Performance-Oriented Instruction (I)
IIIB	Performance-Oriented Evaluation (F, E)
IV	Lesson Preparation (I, F, E)
Cluster V	Student Discipline and Control
VA	Handling Student Discipline Problems (I, E)
VB	Understanding, Anticipating, and Handling Student Discipline Problems (F)
VC	Understanding and Anticipating Student Discipline Problems (E)

Questionnaire 3	Teachers' Ancillary Activities
Cluster I	Counseling and Guidance
IA	Student Counseling (I)
IB	Formal Student Counseling (F, E)
IC	Informal Student Counseling (F)
II	Materials and Equipment Management (I, F, E)
III	Professional Activities (I, F, E)
Cluster IV	Administrative Activities
IVA	Administrative Activities (I, F)
IVB	Student Job Placement Activities (E)
V	Audiovisual Equipment Operation (I, F, E)
VI	Miscellaneous Non-Instructional Activities (I, E)
VII	Laboratory Safety Activities (I, F)

Questionnaire 3 (Cont.)

VIII	Interpersonal Relationships (E)
IX	Selecting and Maintaining Instructional Materials (E)

Questionnaire 4	Student Behavior Problems
Cluster I	Criminal and Quasi-Criminal Misbehavior
IA	Criminal and Quasi-Criminal Misbehavior (I)
IB	Violent Criminal and Quasi-Criminal Misbehavior (F)
IC	Non-Violent Criminal and Quasi-Criminal Misbehavior (F)
II	Verbal and Symbolic Misbehavior (I, F)
Cluster III	Non-Criminal Physical Misbehavior
IIIA	Destructive and Unsafe Misbehavior (I)
IIIB	Horseplay (F)
IV	Inconsiderate and Negligent Behavior (I, F)
V	Improper Appearance (I, F)
VI	Neglect of School Work (I)
VII	Grooming in Class (I)
VIII	Cheating (F, E)
IX	Lack of Classroom Cooperation (E)
X	Inattentiveness (E)
XI	Rebelliousness (E)
XII	Disrespect Toward Other Students (E)
XIII	Messiness (E)
XIV	Common Minor Misbehaviors (E)

Questionnaire 5	Students' Rating of Teacher Behavior
I	Authoritarianism
II	Hostility
III	Friendliness
IV	Student Orientation
V	Dynamism
VI	Effectiveness

Table 4

Factor Variance

Questionnaire 1

Factor	Variance	% Variance	Cumulative % Variance
1	5.26	10.52	10.52
2	4.38	8.76	19.27
3	3.40	6.79	26.07
4	3.08	6.16	32.22
5	2.33	4.66	36.88
6	1.80	3.58	40.47
7	1.72	3.44	43.91
8	1.59	3.17	47.08
9	1.55	3.11	50.19
10	1.42	2.84	53.03

Table 5

Factor Variance

Questionnaire 2 (I)

Factor	Variance	% Variance	Cumulative % Variance
1	30.52	20.35	20.35
2	6.26	4.18	24.53
3	5.89	3.93	28.46
4	3.37	2.25	30.70
5	3.13	2.09	32.79
6	2.88	1.92	34.71
7	2.79	1.86	36.57
8	2.36	1.57	38.14
9	2.31	1.54	39.68
10	2.13	1.42	41.10

Table 6

Factor Variance

Questionnaire 2 (F)

Factor	Variance	% Variance	Cumulative % Variance
1	22.38	14.92	14.92
2	6.40	4.26	19.18
3	5.50	3.37	22.85
4	3.79	2.53	25.38
5	3.31	2.21	27.59
6	3.18	2.12	29.71
7	3.07	2.05	31.76
8	2.52	1.68	33.43
9	2.39	1.59	35.03
10	2.25	1.50	36.52

Table 7

Factor Variance

Questionnaire 2 (E)

Factor	Variance	% Variance	Cumulative % Variance
1	36.13	24.09	24.09
2	4.05	2.70	26.79
3	3.52	2.34	29.13
4	3.04	2.03	31.16
5	2.87	1.91	33.07
6	2.75	1.84	34.91
7	2.32	1.55	36.46
8	2.27	1.51	37.97
9	2.22	1.48	39.45
10	2.10	1.40	40.85

Table 8

Factor Variance

Questionnaire 3 (I)

Factor	Variance	% Variance	Cumulative % Variance
1	19.74	25.63	25.63
2	3.61	4.69	30.32
3	3.10	3.92	34.24
4	2.65	3.44	37.68
5	2.38	3.10	40.77
6	2.11	2.73	43.51
7	1.90	2.47	45.96
8	1.66	2.15	48.13
9	1.60	2.07	50.20
10	1.45	1.88	52.08

Table 9

Factor Variance

Questionnaire 3 (F)

Factor	Variance	% Variance	Cumulative % Variance
1	10.46	13.59	13.59
2	4.20	5.45	19.04
3	3.30	4.28	23.32
4	2.62	3.40	26.73
5	2.49	3.24	29.96
6	2.26	2.94	32.90
7	2.08	2.71	35.61
8	1.83	2.38	37.92
9	1.70	2.21	40.20
10	1.59	2.06	42.26

Table 10

Factor Variance

Questionnaire 3 (E)

Factor	Variance	% Variance	Cumulative % Variance
1	17.62	22.88	22.88
2	3.10	4.03	26.91
3	2.59	3.36	30.28
4	2.17	2.82	33.09
5	1.94	2.52	35.61
6	1.85	2.40	38.01
7	1.72	2.23	40.24
8	1.63	2.11	42.35
9	1.56	2.02	44.37
10	1.49	1.93	46.30

Table 11

Factor Variance

Questionnaire 4 (I)

Factor	Variance	% Variance	Cumulative % Variance
1	47.13	33.67	33.67
2	8.67	6.20	39.86
3	4.63	3.30	43.16
4	3.41	2.44	45.60
5	3.13	2.24	47.84
6	2.47	1.77	49.60
7	2.39	1.71	51.31
8	2.10	1.50	52.81
9	2.03	1.45	54.26
10	1.81	1.29	55.56

Table 12

Factor Variance

Questionnaire 4 (F)

Factor	Variance	% Variance	Cumulative % Variance
1	31.30	22.36	22.36
2	7.27	5.19	27.55
3	4.85	3.47	31.02
4	3.51	2.51	33.53
5	3.40	2.43	35.96
6	2.96	2.12	38.08
7	2.73	1.95	40.03
8	2.64	1.89	41.92
9	2.16	1.54	43.46
10	1.97	1.41	44.87

Table 13

Factor Variance

Questionnaire 4 (E)

Factor	Variance	% Variance	Cumulative % Variance
1	17.75	29.10	29.10
2	2.59	4.24	33.34
3	2.33	3.82	37.17
4	2.07	3.40	40.57
5	1.79	2.94	43.50
6	1.52	2.50	46.00
7	1.49	2.44	48.44
8	1.34	2.19	50.63
9	1.30	2.13	52.77
10	1.18	1.93	54.70

Table 14

Factor Variance

Questionnaire 5

Factor	Variance	% Variance	Cumulative % Variance
1	18.32	36.63	36.63
2	9.62	19.23	55.87
3	3.37	6.75	62.61
4	2.33	4.66	67.27
5	1.73	3.46	70.72
6	1.35	2.70	73.42
7	1.13	2.25	75.68
8	.94	1.89	77.56
9	.74	1.48	79.04
10	.71	1.42	80.46

Tables 15 - 88

Tables 15-88 list the salient variables for each factor. All variables with loadings of .40 or higher are included. In a few cases, variables with slightly lower loadings are included where they add clarity to the factor.

Table 15

Primary Factor Pattern

Questionnaire 1 - Factor I

FACTOR NAME: Upper-Income Students

VARIABLE	LOADING
Percent of students with parents who graduated from four-year college/university, etc., or from a professional school.	.81
Percent of students with parents who completed one or more years of graduate work at college or university.	.79
Percent of students who live in better suburban and apartment house area; homes with large grounds (homes $35,000 - $50,000).	.76
Percent of students with parents who attended college for two or more years, or equivalent higher education.	.65
Percent of students who live in select residential area (or areas of highest repute in the community [homes over $50,000]).	.59
Percent of students who live in preferred residential areas, adequate grounds, good apartment buildings (homes $20,000 - $35,000).	.47
Percent of students who are Caucasian/Anglo.	.39
Percent of students who are Negro.	-.35

Table 16

Primary Factor Pattern

Questionnaire 1 - Factor II

FACTOR NAME: Lower-Income Students

VARIABLE	LOADING
Percent of students who live in area considerably deteriorated but not a slum area; depreciated reputation.	.85
Percent of students who live in slum area (or areas) of the community; neighborhood in bad repute.	.85
Percent of students who live in area beginning to deteriorate; business or industry entering into it (homes $10,000 or under).	.75
Percent of students who live in residential neighborhoods with no deterioration reputed to be average (homes $10,000 - $20,000).	-.43

Table 17

Primary Factor Pattern

Questionnaire 1 - Factor III

FACTOR NAME: School and Town Size

VARIABLE	LOADING
Number of students enrolled in the school.	.78
Number of full-time teachers in the school.	.76
Where you have had most of your work experience (high = urban, low = rural).	.62
Number of teachers in your department.	.54
Where you lived during most of your childhood (high = larger city, low = rural).	.53
Percent of students in your classes who are Puerto Rican.	.36
Location of school (high = inner city, low = suburban).	-.33
Percent of students in your classes who are Caucasian/Anglo.	-.33
Percent of students in your classes who are Negro.	.32

Table 18

Primary Factor Pattern

Questionnaire 1 - Factor IV

FACTOR NAME: Pre-Teaching Experience

VARIABLE	LOADING
Number of years of work experience prior to becoming a teacher.	.83
Number of years of work experience in your field of specialty.	.79
Your sex (high = male).	.69
Number of children.	.54
Amount of employment while attending college (high = full-time, low = none).	.50
Highest education level completed by mother (high = less education).	.47
Highest education level completed by father (high = less education).	.40
Highest educational level you have completed (high = less education).	.37
Distance commuted to class each day.	.37
Spouse's educational level compared with your own (high = spouse has less education).	.33

Table 19

Primary Factor Pattern

Questionnaire 1 - Factor V

FACTOR NAME: Teaching Experience

VARIABLE	LOADING
Number of years in total which you have taught.	.91
Numbers of years you have taught in your field of specialty.	.90
Number of years you have taught in your present position.	.81
Your age.	.79
Number of times your residence has changed during the past five years—not including moves within the same city.	-.54

Table 20

Primary Factor Pattern

Questionnaire 1 - Factor VI

FACTOR NAME: Teacher Birth Order

VARIABLE	LOADING
Order of birth in your family (high = later born).	.67
Number of brothers and sisters—living and deceased.	.67
Percent of students in your classes who are Caucasian/Anglo.	.57
Percent of students in your classes who are Negro.	.43
Completed no more than three years of grade school.	.37

Table 21

Primary Factor Pattern

Questionnaire 2 (I) - Factor 1A

FACTOR NAME: Student-Centered Instruction

VARIABLE	LOADING
Clarify content in a new way when it is not understood.	.58
Adjust tempo of learning to student needs.	.53
Use appropriate examples to clarify and add interest.	.53
Give instructions clearly.	.52
Give individual attention to students as they are working.	.52
Provide realistic learning experiences.	.51
Clarify information to prevent confusion by students.	.48
Encourage students to ask questions.	.48
Involve students in problem-solving activities.	.47
Provide individualized instruction as a learning experience.	.46
Provide signs of immediate success, rewards, and encouragment to students.	.45

Table 22

Primary Factor Pattern

Questionnaire 2 (I) - Factor 1B

FACTOR NAME: Individualized Evaluation and Instruction

VARIABLE	LOADING
Encourage pupils working independently on topics of personal concern.	.52
Use club-related activities to promote learning.	.50
Use various means to find information about students' abilities and background.	.50
Allow students to determine their own level of aspiration.	.47
Adapt assignments to allow for individual differences.	.44
Evaluate work of different pupils by different standards.	.43
Provide individualized instruction as a learning experience.	.42
Be aware of the academic standing of individual class members in other subject areas.	.41
Provide students with materials pertaining to effective study techniques.	.40

Table 23

Primary Factor Pattern

Questionnaire 2 (I) - Factor IC

FACTOR NAME: Analysis of Student Progress

VARIABLE	LOADING
Determine the cause of a student's behavior.	.53
Recognize, interpret, and utilize student actions and behavior (cues).	.52
Develop acceptable standards of quality for entry level employment.	.50
Hold each student accountable for his actions and behavior.	.50
Establish methods for measuring acquired skill levels.	.46
Utilize consistent discipline.	.45
Promote a definite rapport between teacher and class.	.43
Discover the strengths and weaknesses of every student on-the-job and in the classroom.	.41
Hold all pupils responsible for specific skills to be learned.	.40

Table 24

Primary Factor Pattern

Questionnaire 2 (I) - Factor II

FACTOR NAME: Non-Directive Instruction

VARIABLE	LOADING
Formulate essay-type questions.	.65
Construct case-study problems.	.58
Ask questions which require alternative answers.	.58
Moderate various types of discussion activities.	.57
Provide instruction through the use of case problems.	.53
Point out to students methods of analyzing case study problems.	.52
Direct a group discussion.	.51
Have pupils spend time observing a person or thing.	.48
Encourage student to guess or hypothesize about the unknown or untested.	.46
Plan for special reports by students.	.44
Direct role playing as a learning activity.	.43
Help students question misconceptions, faulty logic, unwarranted conclusions.	.43
Organize subject matter around personalities and human relations.	.41
Ask students to support answers or opinions with evidence.	.41
Help student to judge comparative values of answers or suggestions.	.41

Table 25

Primary Factor Pattern

Questionnaire 2 (I) - Factor IIIA

FACTOR NAME: Performance-Oriented Instruction

VARIABLE	LOADING
Instill a competitive spirit within the class.	.69
Instill a competitive spirit within the laboratory/classroom.	.64
Ask questions which require single correct answers.	.55
Motivate students with privileges, grades, rewards.	.51
Reinforce students' answers as "right" or "wrong."	.50
Devise and administer performance tests.	.49
Ask questions that students can only answer only if they have studies the lesson.	.46
Group student to recognize individual differences.	.46
Demonstrate to students manipulative skills utilized in the lesson.	.45
Evaluate with standardized tests.	.43
Formulate activities to measure levels of skill attainment.	.42
Establish methods for measuring acquired skill levels.	.40
Devise and administer objective type test questions.	.40

Table 26

Primary Factor Pattern

Questionnaire 2 (I) - Factor IV

FACTOR NAME: Lesson Preparation

VARIABLE	LOADING
Plan the introduction of a lesson.	.60
Select and develop instructional content for a lesson.	.58
Prepare lesson plans.	.54
Relate course objectives to daily behavioral objectives.	.53
Organize instructional materials in reference to course objectives.	.51
Select appropriate teaching techniques and methods for accomplishing the lesson objective.	.50
Pre-plan general timing of lesson parts.	.47
Formulate course objectives.	.46
Organize the sequence of learning activities.	.43
Approach subject matter in an informal manner.	-.42

Table 27

Primary Factor Pattern

Questionnaire 2 (I) - Factor VA

FACTOR NAME: Handling Student Discipline Problems

VARIABLE	LOADING
Control outbursts of fighting, aggressiveness, or over competitiveness.	.77
Prevent one student from causing another physical harm.	.68
Control students who physically assault the teacher.	.67
Handle outside noise or other distraction coming from out of the classroom.	.47
Make the disciplinary action taken against the student fit the act or behavior.	.43
Handle discipline problems or disturbances caused by students not in your class.	.40

Table 28

Primary Factor Pattern

Questionnaire 2 (S) - Factor ID

FACTOR NAME: Student Accountability

VARIABLE	LOADING
Give instructions clearly.	.72
Encourage students to ask questions.	.64
Hold all pupils responsible for specific materials to be learned.	.58
Hold all pupils responsible for specific skills to be learned.	.55
Ask questions which require single correct answers.	.50
Hold each student accountable for his actions and behavior.	.49
Relate learning to student's experience and past learning.	.47
Utilize consistent discipline.	.46
Conduct lessons on the level of students' ability.	.44
Praise students in order to reinforce their behavior.	.44
Promote a definite rapport between teacher and class.	.43
Provide signs of immediate success, rewards, and encouragement to students.	.43
Maximize the transfer of learning during the lesson, by relating one idea to another.	.41

Table 29

Primary Factor Pattern

Questionnaire 2 (F) - Factor IE

FACTOR NAME: Student-Centered and Individualized Instruction

VARIABLE	LOADING
Give individual attention to students as they are working.	.61
Involve students in problem-solving activities.	.59
Encourage pupils working independently on topics of personal concern.	.53
Clarify content in a new way when it is not understood.	.53
Provide individualized instruction as a learning experience.	.50
Clarify information to prevent confusion by students.	.48
Use appropriate examples to clarify and add interest.	.46
Demonstrate to students manipulative skills utilized in the lesson.	.46
Involve student in finding and analyzing subject matter.	.42
Adapt assignments to allow for individual differences.	.41

Table 30

Primary Factor Pattern

Questionnaire 2 (F) - Factor IF

FACTOR NAME: Individualized Evaluation

VARIABLE	LOADING
Allow students to determine their own level of aspiration.	.52
Evaluate work of different pupils by different standards.	.51
Maintain an atmosphere conducive to teacher-pupil planning.	.47
Discover the strengths and weaknesses of every student on-the-job and in the classroom.	.45

Table 31

Primary Factor Pattern

Questionnaire 2 (F) - Factor II

FACTOR NAME: Non-Directive Instruction

VARIABLE	LOADING
Construct case study problems.	.59
Ask questions which require alternative answers.	.55
Direct a group discussion.	.54
Encourage student to guess or hypothesize about the unknown or untested.	.53
Moderate various types of discussion activities.	.50
Provide instruction through the use of case problems.	.49
Plan for special reports by students.	.49
Point out to students methods of analyzing case study problems.	.49
Have students gather additional, detailed facts and information on the subject following teacher presentation.	.48
Have pupils spend time observing a person or thing.	.47
Formulate essay-type questions.	.46
Use pre-test information in planning where to begin the course.	.41
Supplement student contributions by adding comments and asking other questions.	.40

Table 32

Primary Factor Pattern

Questionaire 2 (F) - Factor IIIB

FACTOR NAME: Performance-Oriented Evaluation

VARIABLE	LOADING
Instill a competitive spirit within the laboratory/classroom.	.52
Evaluate with standardized tests.	.51
Instill a competitive spirit within the class.	.48
Plan and carry out a comprehensive review.	.47
Establish methods for measuring on-the-job performance.	.44
Evaluate success of program through student follow-up.	.42
Give a demonstration so that students can clearly hear and see.	.41
Establish methods for measuring acquired skill levels.	.41

Table 33

Primary Factor Pattern

Questionnaire 2 (F) - Factor IV

FACTOR NAME: Lesson Preparation

VARIABLE	LOADING
Prepare lesson plans.	.61
Select and develop instructional content for a lesson.	.60
Plan the introduction of a lesson.	.55
Select appropriate teaching techniques and methods for accomplishing the lesson objective.	.54
Organize the sequence of learning activities.	.53
Select main points of a lesson for summarization.	.48
Select instructional units needed by all students for group instruction.	.43

Table 34

Primary Factor Pattern

Questionnaire 2 (F) - Factor VB

FACTOR NAME: Understanding, Anticipating, and Handling Student Discipline Problems

VARIABLE	LOADING
Be prepared to meet student verbal explosions.	.70
Cope with unpleasant remarks made by students.	.69
Prevent one student from causing another physical harm.	.68
Control outbursts of fighting, aggressiveness, or over competitiveness.	.67
Gain knowledge of the principles underlying discipline problems.	.61
Determine the cause of a student's behavior.	.60
Handle outside arguments which are brought into the classroom.	.57
Handle discipline problems or disturbances caused by students not in your class.	.56
Handle outside noise or other distraction coming from out of the classroom.	.55
Made the disciplinary action taken against the student fit the act or behavior.	.53
Anticipate likely classroom problems.	.51
Plan from day to day to meet specific classroom control problems.	.50
Control students who physically assault the teacher.	.48
Handle the situation of a student being too tired to function efficiently.	.48
Cope with students who fail to do assigned homework assignments.	.45
Prevent students' repeatedly coming to class late.	.42

Table 35

Primary Factor Pattern

Questionnaire 2 (E) - Factor IE

FACTOR NAME: Student-Centered and Individualized Instruction

VARIABLE	LOADING
Involve student in finding and analyzing subject matter.	.66
Involve students in problem-solving activities.	.54
Give individual attention to students as they are working.	.51
Motivate students with intrinsic value of ideas or activities.	.51
Provide individualized instruction as a learning experience.	.47
Encourage pupils working independently on topics of personal concern.	.47
Obtain full class participation.	.44
Assist student in solving their scholastic problems.	.44
Adapt assignments to allow for individual differences.	.43
Supplement student contributions by adding comments and asking other questions.	.43
Clarify content in a new way when it is not understood.	.43
Assist students in developing good study habits.	.42
Instill a competitive spirit within the laboratory/classroom.	.41
Help student achieve maximum motivation.	.40

Table 36

Primary Factor Pattern

Questionnaire 2 (E) - Factor II

FACTOR NAME: Non-Directive Instruction

VARIABLE	LOADING
Provide instruction through the use of case problems.	.59
Construct case study problems.	.49
Have pupils spend time observing a person or thing.	.43
Direct a group discussion.	.45
Moderate various types of discussion activities.	.44
Point out to students methods of analyzing case study problems.	.42
Formulate essay-type questions.	.41
Have students gather additional, detailed facts and information on the subject following teacher presentation.	.39
Organize learning materials around pupil's own problem or question.	.38

Table 37

Primary Factor Pattern

Questionnaire 2 (E) - Factor IIIB

FACTOR NAME: Performance-Oriented Evaluation

VARIABLE	LOADING
Evaluate with standardized tests.	.55
Devise and administer objective type test questions.	.54
Establish methods for measuring acquired skill levels.	.51
Devise and administer performance tests.	.51
Ask questions that students can only answer if they have studied the lesson.	.50
Participate in overall program evaluation.	.50
Establish evaluative procedures for measuring student growth.	.49
Use varied assessment techniques to evaluate student's progress in class and home assignments.	.45
Hold all pupils responsible for specific materials to be learned.	.45
Establish methods for measuring on-the-job performance.	.41
Remain detached from pupils' activities.	.40

Table 38

Primary Factor Pattern

Questionnaire 2 (E) - Factor IV

FACTOR NAME: Lesson Preparation

VARIABLE	LOADING
Organize instructional materials in reference to course objectives.	.54
Select and develop instructional content for a lesson.	.52
Organize the sequence of learning activities.	.52
Have daily materials available prior to class.	.51
Prepare lesson plans.	.50
Select appropriate teaching techniques and methods for accomplishing the lesson objective.	.45
Maintain a convenient and efficient classroom/laboratory.	.43
Formulate course objectives.	.42
Select instructional units needed by all students for group instruction.	.41
Set standards for student attainment in class.	.41
Relate course objectives to daily behavioral objectives.	.40

Table 39

Primary Factor Pattern

Questionnaire 2 (E) - Factor VA

FACTOR NAME: Handling Student Discipline Problems

VARIABLE	LOADING
Control outbursts of fighting, aggressiveness, or over competitiveness.	.64
Prevent one student from causing another physical harm.	.63
Handle outside noise or other distraction coming from out of the classroom.	.59
Handle discipline problems or disturbances caused by students not in your class.	.57
Control students who physically assault the teacher.	.55
Cope with unpleasant remarks made by students.	.51
Handle outside arguments which are brought into the classroom.	.46
Handle the situation of a student being too tired to function efficiently.	.43
Prevent students' repeatedly coming to class late.	.38

Table 40

Primary Factor Pattern

Questionnaire 2 (E) - Factor VC

FACTOR NAME: Understanding and Anticipating Student Discipline Problems

VARIABLE	LOADING
Anticipate likely classroom problems.	.69
Plan from day to day to meet specific classroom control problems.	.64
Gain knowledge of the principles underlying discipline problems.	.61
Determine the cause of a student's behavior.	.59
Be prepared to meet student verbal explosions.	.55
Make the disciplinary action taken against the student fit the act or behavior.	.53
Encourage self-discipline on part of student.	.53
Cope with unpleasant remarks made by students.	.51
Recognize, interpret, and utilize student actions and behavior (cues).	.50
Promote a definite rapport between teacher and class.	.48
Anticipate likely management and control problems in the classroom or laboratory.	.47
Hold each student accountable for his actions and behavior.	.46
Establish acceptable standards or behavior.	.45
Encourage pupils to express themselves freely.	.43

Table 41

Primary Factor Pattern

Questionnaire 3 (I) - Factor IA

FACTOR NAME: Student Counseling

VARIABLE	LOADING
Make local employment information files available to students.	.67
Obtain the assistance of other teachers in remedial instruction of students in your classes.	.67
Contact selected school dropouts and encourage training for them in your vocational specialty.	.64
Refer students to qualified personnel agencies to secure occupational and educational information.	.64
Interpret aptitude tests, occupational tests, and interest inventories to your students.	.60
Cooperate with guidance counselors to aid progress of students in your classes.	.59
Assist students in outlining a program to further their training and education.	.58
Confer with students' parents relative to students' progress in the occupational program.	.54
Discuss occupational opportunities with graduates and former students.	.51
Maintain an "open door" policy regarding student counseling.	.50
Conduct visits to students' homes for personal counseling.	.50
Assist students with personal and social problems.	.42

Table 42

Primary Factor Pattern

Questionnaire 3 (I) - Factor II

FACTOR NAME: Materials and Equipment Management

VARIABLE	LOADING
Prepare request for needed supplies and equipment.	.65
Arrange for a secure storage space for equipment and supplies.	.63
Schedule classroom/laboratory equipment for maximum utilization by students.	.61
Provide students with storage space in the classroom/laboratory.	.60
Record and file attendance reports on students.	.54
Develop and implement a system for cleaning and maintaining the classroom/laboratory.	.52
Maintain a running inventory of supplies, tools, equipment, and instructional materials.	.47
Determine long- and short-range program facility needs.	.45
Control the physical aspects of the classroom/laboratory, i.e., light, ventilation, heat, for maximum comfort.	.43
Develop sound working relationships with school staff, i.e., secretaries, custodians, cafeteria workers, school nurse.	.42

Table 43

Primary Factor Pattern

Questionnaire 3 (I) - Factor III

FACTOR NAME: Professional Activities

VARIABLE	LOADING
Maintain active membership in local education associations or local teachers' union.	.80
Actively participate as a member or officer of a professional organization or teachers' union.	.72
Participate in state and national vocational organizations.	.72
Maintain active membership in National Education Association or American Federation of Teachers.	.71
Attend local and state professional meetings.	.71
Provide helpful assistance to beginning teachers in your school.	.44
Keep informed on the development of vocational education on the state and national levels.	.42

Table 44

Primary Factor Pattern

Questionnaire 3 (I) - Factor IVA

FACTOR NAME: Administrative Activities

VARIABLE	LOADING
Make community occupational surveys of manpower needs.	.69
Prepare publicity coverage for the vocational program.	.67
Maintain a record system of student placement opportunities.	.64
Develop and maintain student placement records.	.63
Prepare and file local program financial records.	.55
Prepare reports required by the state department of education.	.49
Obtain follow-up information from graduates and former students.	.46
Determine long- and short-range program facility needs.	.44
Assist in planning and developing the overall educational objectives and goals of the total school program.	.42
Interpret and promote vocational education within your school and the school system.	.40

Table 45

Primary Factor Pattern

Questionnaire 3 (I) - Factor V

FACTOR NAME: Audiovisual Equipment Operation

VARIABLE	LOADING
Operate a 35mm filmstrip or slide projector.	.83
Operate a sound filmstrip projector with record or cassette attachment.	.76
Operate an opaque projector.	.63
Operate a motion picture projector.	.62
Operate a videotape recorder.	.54
Reproduce instructional materials using a thermo or photo copier, i.e., 3M, Xerox.	.49
Reproduce instructional materials using a spirit duplicator, i.e., ditto.	.44

Table 46

Primary Factor Pattern

Questionnaire 3 (I) - Factor VI

FACTOR NAME: Miscellaneous Non-Instructional Activities

VARIABLE	LOADING
Participate in non-instructional school duties, e.g., study hall, cafeteria, bus ticket collecting.	.65
Assist in administering SCAT, STEP, and other school, district, state, or national testing programs.	.60
Serve as a homeroom teacher.	.56
Determine and collect fees for consumable supplies.	.45

Table 47

Primary Factor Pattern

Questionnaire 3 (I) - Factor VII

FACTOR NAME: Laboratory Safety Activities

VARIABLE	LOADING
Provide approved safety apparel and devices for students operating hazardous equipment in the classroom/laboratory.	.66
Attend to students injured in the classroom/laboratory.	.61
Maintain a record of safety instruction presented in compliance with safety laws and regulations.	.58
Maintain a record of students injured in the classroom/laboratory	.55

Table 48

Primary Factor Pattern

Questionnaire 3 (F) - Factor IB

FACTOR NAME: Formal Student Counseling

VARIABLE	LOADING
Develop and administer a survey instrument to determine the students' home environment.	.66
Contact selected school dropouts and encourage training for them in your vocational specialty.	.63
Administer aptitude tests, occupational tests, and interest inventories.	.61
Select reference books, texts, and other materials for the school library.	.57
Conduct visits to students' homes for personal counseling.	.56
Assist in administering SCAT, STEP, and other school, district, state, or national testing programs.	.53
Interpret aptitude tests, occupational tests, and interest inventories to your students.	.50
Prepare travel budgets.	.42

Table 49

Primary Factor Pattern

Questionnaire 3 (F) - Factor IC

FACTOR NAME: Informal Student Counseling

VARIABLE	LOADING
Confer with other teachers regarding progress of students enrolled in your classes.	.57
Assist students in outlining a program to further their training and education.	.57
Confer with students' parents relative to students' progress in the occupational program.	.52
Maintain an "open door" policy regarding student counseling.	.50
Assist students with personal and social problems.	.48
Obtain the assistance of other teachers in remedial instruction of students in your classes.	.47
Cooperate with guidance counselors to aid progress of students in your classes.	.47
Refer students to qualified personnel agencies to secure occupational and educational information.	.47

Table 50

Primary Factor Pattern

Questionnaire 3 (F) - Factor II

FACTOR NAME: Materials and Equipment Management

VARIABLE	LOADING
Arrange for a secure storage space for equipment and supplies.	.66
Schedule classroom/laboratory equipment for maximum utilization by students.	.62
Develop and implement a system for cleaning and maintaining the classroom/laboratory.	.52
Establish "check out" procedures for books, periodicals, supplies, tools, and equipments.	.48
Determine long- and short-range program facility needs.	.47
Provide students with storage space in the classroom/laboratory.	.46

Table 51

Primary Factor Pattern

Questionnaire 3 (F) - Factor III

FACTOR NAME: Professional Activities

VARIABLE	LOADING
Participate in state and national vocational organizations.	.63
Maintain active membership in National Education Association of American Federation of Teachers.	.62
Maintain active membership in local education associations or local teachers' union.	.60
Participate in research studies which contribute to your field.	.57
Maintain a personal up-to-date professional library.	.56
Attend local and state professional meetings.	.53
Participate in and/or plan local in-service education programs.	.50
Keep informed on the development of vocational education on the state and national levels.	.48
Actively participate as a member or officer of a professional organization or teachers' union.	.45
Cooperate with area colleges in providing opportunities for observation and demonstration.	.41
Plan and pursue consistently a personal program of continuing education.	.40

Table 52

Primary Factor Pattern

Questionnaire 3 (F) - Factor IVA

FACTOR NAME: Administrative Activities

VARIABLE	LOADING
Develop and maintain student placement records.	.77
Maintain a record system of student placement opportunities.	.76
Make community occupational surveys of manpower needs.	.48
Prepare publicity coverage for the vocational program.	.46
Obtain follow-up information from graduates and former students.	.45
Make local employment information files available to students.	.45

Table 53

Primary Factor Pattern

Questionnaire 3 (F) - Factor V

FACTOR NAME: Audiovisual Equipment Operation

VARIABLE	LOADING
Operate a motion picture projector.	.73
Operate a 35mm filmstrip or slide projector.	.73
Operate a sound filmstrip projector with record or casette attachment.	.65
Operate a videotape recorder.	.60
Operate an opaque projector.	.55

Table 54

Primary Factor Pattern

Questionnaire 3 (F) - Factor VII

FACTOR NAME: Laboratory Safety Activities

VARIABLE	LOADING
Provide approved safety apparel and devices for students operating hazardous equipment in the classroom/laboratory.	.66
Maintain a record of students injured in the classroom/laboratory.	.62
Attend to students injured in the classroom/laboratory.	.59
Maintain a record of safety instruction presented in compliance with safety laws and regulations.	.52
Determine and collect fees for consumable supplies.	.52
Maintain a running inventory of supplies, tools, equipment, and instructional materials.	.40

Table 55

Primary Factor Pattern

Questionnaire 3 (E) - Factor IB

FACTOR NAME: Formal Student Counseling

VARIABLE	LOADING
Administer aptitude tests, occupational tests, and interest inventories.	.57
Develop and administer a survey instrument to determine the students' home environment.	.55
Serve as a homeroom teacher.	.48
Interpret aptitude tests, occupational tests, and interest inventories to your students.	.47
Contact selected school dropouts and encourage training for them in your vocational specialty.	.47
Conduct visits to students' homes for personal counseling.	.41

Table 56

Primary Factor Pattern

Questionnaire 3 (E) - Factor II

FACTOR NAME: Materials and Equipment Management

VARIABLE	LOADING
Record and file attendance reports on students.	.69
Develop and implement a system for cleaning and maintaining the classroom/laboratory.	.62
Provide approved safety apparel and devices for students operating hazardous equipment in the classroom/laboratory.	.52
Establish "check out" procedures for books, periodicals, supplies, tools, and equipment.	.47
Determine and collect fees for consumable supplies.	.46
Arrange for a secure storage space for equipment and supplies.	.46
Maintain a running inventory of supplies, tools, equipment, and instructional materials.	.46
Control the physical aspects of the classroom/laboratory, i.e., light, ventilation, heat, for maximum comfort.	.42
Schedule classroom/laboratory equipment for maximum utilization by students.	.41
Prepare requests for needed supplies and equipment.	.41
Establish a policy for use of physical facilities by outside groups and other school personnel.	.40

Table 57

Primary Factor Pattern

Questionnaire 3 (E) - Factor III

FACTOR NAME: Professional Activities

VARIABLE	LOADING
Maintain active membership in National Education Association or American Federation of Teachers.	.79
Maintain active membership in local education associations or local teachers' union.	.76
Attend local and state professional meetings.	.59
Participate in state and national vocational organizations.	.58
Keep informed on the development of vocational education on the state and national levels.	.53
Actively participate as a member or officer of a professional organization or teachers' union.	.44
Provide helpful assistance to beginning teachers in your school.	.43
Plan and pursue consistently a personal program of continuing education.	.41

Table 58

Primary Factor Pattern

Questionnaire 3 (E - Factor IVB

FACTOR NAME: Student Job Placement Activities

VARIABLE	LOADING
Develop and maintain student placement records.	.71
Obtain follow-up information from graduates and former students.	.70
Maintain a record system of student placement opportunities.	.68
Make local employment information files available to students.	.56
Write articles which contribute to the professional literature in your field.	.55
Confer with students' parents relative to students' progress in the occupational program.	.50
Make community occupational surveys of manpower needs.	.46
Obtain the assistance of other teachers in remedial instruction of students in your classes.	.43
Maintain a record of students injured in the classroom/ laboratory.	.43
Refer students to qualified personnel agencies to secure occupational and educational information.	.41

Table 59

Primary Factor Pattern

Questionnaire 3 (E) - Factor V

FACTOR NAME: Audiovisual Equipment Operation

VARIABLE	LOADING
Operate a sound filmstrip projector with record or cassette attachment.	.77
Operate a 35mm filmstrip or slide projector.	.77
Reproduce instructional materials using a spirit duplicator, i.e., ditto.	.66
Operate a motion picture projector.	.62
Reproduce instructional materials using a mimeographic duplicator.	62
Reproduce instructional materials using a thermo or photo copier, i.e., 3M, Xerox.	.53
Operate a videotape recorder.	.48
Operate an opaque projector.	.47

Table 60

Primary Factor Pattern

Questionnaire 3 (E) - Factor VIII

FACTOR NAME: Interpersonal Relationships

VARIABLE	LOADING
Develop sound professional working relationships with teachers and administrators.	.50
Assist students with personal and social problems.	.50
Cooperate with guidance counselors to aid progress of students in your classes.	.50
Develop sound working relationships with school staff, i.e., secretaries, custodians, cafeteria workers, school nurse.	.49
Maintain an "open door" policy regarding student counseling.	.48
Confer with other teachers regarding progress of students enrolled in your classes.	.44
Provide helpful assistance to beginning teachers in your school.	.42
Refer students to qualified personnel agencies to secure occupational and educational information.	.40
Maintain a personal up-to-date professional library.	.40

Table 61

Primary Factor Pattern

Questionnaire 3 (E) - Factor IX

FACTOR NAME: Selecting and Maintaining Instructional Materials

VARIABLE	LOADING
Maintain a classroom library.	.68
Provide adequate references for each occupational cluster represented in the program.	.66
Determine long- and short-range program facility needs.	.52
Obtain materials for instructional use from stores, offices, or industrial establishments.	.51
Develop a system for recording and filing all information relevant to planning future courses.	.50
Provide students with storage space in the classroom/ laboratory.	.50
Select reference books, texts, and other materials for the school library.	.42

Table 62

Primary Factor Pattern

Questionnaire 4 (I) - Factor IA

FACTOR NAME: Criminal and Quasi-Criminal Misbehavior

VARIABLE	LOADING
Possessing brass knuckles, molotov cocktails, etc., on school property.	1.00
Possessing narcotics on school property.	.98
Under the influence of narcotics in class.	.95
Consuming alcohol in classroom or laboratory area.	.95
Possessing guns on school property.	.94
Under the influence of alcohol in class.	.88
Hitting the teacher.	.85
Starting fires in school.	.81
Possessing alcohol on school property.	.77
Stealing from teacher.	.72
Intentionally injuring another student.	.71
Stealing materials from school.	.69
Possessing stolen goods (not stolen from school, teacher, or students).	.67
Turning in false alarms of bomb scares.	.61
Possessing knives on school property.	.56
Failing to leave building during fire drill.	.52
Stealing from another student.	.51
Stealing tools, materials, or supplies from laboratory area.	.49
Throwing furniture about the room.	.49
Lodging objects in electric receptacles.	.48
Swearing at teacher.	.48

Table 63
Primary Factor Pattern

Questionnaire 4 (I) - Factor II

FACTOR NAME: Verbal and Symbolic Misbehavior

VARIABLE	LOADING
Making fun of another student.	.88
Making fun of mistakes of other students.	.79
Showing disrespect for another student's opinion.	.77
Calling another student names.	.75
Always asking to go to the bathroom or get a drink of water.	.74
Pulling pranks against another students.	.73
Verbally interrupting a student while he is talking to teacher in class.	.70
Sleeping in class.	.70
Drawing picture to poke fun at another student.	.69
Swearing at another student.	.67
Displaying masochistic behavior to demand attention.	.67
Deliberately trying to upset the teacher by misbehaving.	.64
Excessive complaining about feeling ill (hypochondriac).	.59
Crying in class.	.56
Shoving or tripping another student.	.55
Hitting another student.	.54
Verbally interrupting when teacher is talking.	.54
Student dominating the class discussions.	.52
Daydreaming in class.	.50
Destroying or defacing another student's property.	.50
Pulling chair out from under other students.	.49
Asking personal questions to purposely make the teacher uncomfortable.	.49
Making obscene gestures.	48
Throwing things at another student.	.48
Reading, writing, etc., while teacher is talking.	.46

Table 64

Primary Factor Pattern

Questionnaire 4 (I) - Factor IIIA

FACTOR NAME: Destructive and Unsafe Misbehavior

VARIABLE	LOADING
Throwing tools, materials, or equipment about the laboratory.	.55
Logging objects in electric receptacles.	.51
Throwing furniture about the room.	.50
Throwing things out window.	.50
Wearing unsafe clothing or jewelry in laboratory area.	.47
Misusing class materials.	.46
Throwing water.	.46
Misusing bathrooms (e.g., stuffing toilets, throwing paper around, writing or drawing on walls.)	.41
Writing on walls.	.40
Turning in false alarms or bomb scares.	.40

Table 65

Primary Factor Pattern

Questionnaire 4 (I) - Factor IV

FACTOR NAME: Inconsiderate and Negligent Behavior

VARIABLE	LOADING
Clicking pens, or making other similar noises with small objects.	.89
Failing to keep their seats in class.	.82
Making distracting noises with chairs, desks, and other equipment.	.79
Unnecessary movement about the room.	.79
Deliberately dropping books or other objects in class.	.74
Leaving room before dismissal.	.70
Talking out while class is working quietly.	.65
Eating in class.	.62
Whispering, or nonverbally communicating at inappropriate times.	.62
Throwing refuse on floor.	.58
Sitting in wrong seat.	.57
Throwing erasers, pencils, books, etc., in class.	.53
Writing and passing personal notes in class.	.53
Asking irrelevant questions (not pertaining to content being discussed).	.49
Leaving laboratory area without permission.	.47
Putting books or papers away too soon.	.46

Table 66

Primary Factor Pattern

Questionnaire 4 (I) - Factor V

FACTOR NAME: Improper Appearence

VARIABLE	LOADING
Girls wearing skirts too short.	.78
Wearing inappropriate clothing to school (e.g., low cut dresses, lame jackets, etc.)	.76
Wearing clothes too tight.	.72
Having arms around each other outside of class on school property.	.69
Discussing sexual matters in class.	.67
Kissing outside of class on school property.	.63
Failing to have hair cut properly.	.60
Holding hands in class.	.55
Looking up girl's skirt.	.54
Expelling gas in class.	.51
Excessive belching in class.	.46

Table 67

Primary Factor Pattern

Questionnaire 4 (I) - Factor VI

FACTOR NAME: Neglect of School Work

VARIABLE	LOADING
Failing to follow directions for assignment.	.78
Failing to complete homework.	.66
Forgetting notebooks, textbooks, or other classroom materials.	.66
Consistently losing books, assignments, etc.	.64
Failing to complete in-class assignment.	.63
Refusing to participate in class activities or assignments.	.57
Doing wrong assignment.	.55
Refusing to pay attention during a demonstration.	.50
Refusing to take lecture notes.	.49
Turning in a messy project.	.49
Copying assignments from other students.	.48
Coming to class tardy.	.46
Complaining about class or lab activities or assignments.	.45

Table 68

Primary Factor Pattern

Questionnaire 4 (I) - Factor VII

FACTOR NAME: Grooming in Class

VARIABLE	LOADING
Combing hair in class.	.61
Caring for fingernails in class.	.58
Putting on make-up in class.	.54
Turning in messy papers.	.40

Table 69

Primary Factor Pattern

Questionnaire 4 (F) - Factor IB

FACTOR NAME: Violent Criminal and Quasi-Criminal Misbehavior

VARIABLE	LOADING
Consuming alcohol in classroom or laboratory area.	.82
Hitting the teacher.	.73
Possessing brass knuckles, molotov cocktails, etc., on school property.	.70
Lodging objects in electric receptacles.	.58
Failing to leave building during fire drill.	.56
Starting fires in school.	.55
Looking up girl's skirt.	.53
Whispering, or nonverbally communicating at inappropriate times.	.52
Possessing stolen goods (not stolen from school, teachers or students).	.52
Possessing alcohol on school property.	.51
Making passes at teacher or getting fresh with teacher.	.50
Intentionally injuring one's self.	.47
Turning in false alarms or bomb scares.	.45

Table 70

Primary Factor Pattern

Questionnaire 4 (F) - Factor IC

FACTOR NAME: Non-Violent Criminal and Quasi-Criminal Misbehavior

VARIABLE	LOADING
Stealing materials from school.	.55
Stealing tools, materials, or supplies from laboratory area.	.53
Possessing narcotics on school property.	.50
Smoking on school grounds.	.49
Stealing from another student.	.44
Crying in class.	-.40

Table 71

Primary Factor Pattern

Questionnaire 4 (F) - Factor II

FACTOR NAME: Verbal and Symbolic Misbehavior

VARIABLE	LOADING
Making fun of mistakes of other students.	.70
Making fun of another student.	.67
Verbally interrupting a student while he is talking to teacher in class.	.65
Calling another student names.	.59
Arguing with teacher.	.58
Destroying or defacing another student's property.	.58
Verbally interrupting when teacher is talking.	.56
Student dominating the class discussions.	.51
Pulling pranks against another student.	.48
Reading, writing, etc., while teacher is talking.	.44
Making allusions to sex (written or verbal).	.43
Clicking pens, or making other similar noises with small objects.	.42
Pointing out teacher's mistakes.	.42
Whispering, or nonverbally communicating at inappropriate times.	.41
Answering question in humorous, disruptive way.	.41
Lying to teacher with the intent to deceive (not fantasy).	.41
Deliberately trying to upset the teacher by misbehaving.	.40

Table 72

Primary Factor Pattern

Questionnaire 4 (F) - Factor IIIB

FACTOR NAME: Horseplay

VARIABLE	LOADING
Throwing things at another student.	.70
Spitting.	.67
Shoving or tripping another student.	.63
Pulling chair out from under other students.	.57
Hitting another student.	.56
Expelling gas in class.	.54
Excessive belching in class.	.52
Throwing tools, materials, or equipment about the laboratory.	.52
Reading or possessing obscene books or pornographic materials in class.	.49
Throwing water.	.47
Pulling pranks against another student.	.46
Drawing picture to poke fun at another student.	.46
Destroying or defacing another student's property.	.46
Throwing erasers, pencisl, books, etc., in class.	.45
Calling another student names.	.45

Table 73

Primary Factor Pattern

Questionnaire 4 (F) - Factor IV

FACTOR NAME: Inconsiderate and Negligent Behavior

VARIABLE	LOADING
Throwing refuse on floor.	.58
Deliberately dropping books or other objects in class.	.55
Coming to class tardy.	.52
Refusing to participate in class activities or assignments.	.48
Failing to put away materials after use.	.46
Putting books or papers away too soon.	.46
Leaving room before dismissal.	.46
Failing to keep their seats in class.	.44
Failing to follow directions for assignment.	.44
Leaving laboratory or storage area messy.	.44

Table 74

Primary Factor Pattern

Questionnaire 4 (F) - Factor V

FACTOR NAME: Improper Appearance

VARIABLE	LOADING
Wearing clothes too tight.	.83
Girls wearing skirts too short.	.83
Wearing inappropriate clothing to school (e.g., low cut dresses, lame jackets, etc.).	.80
Failing to have hair cut properly.	.59
Having arms around each other outside of class on school property.	.47
Making noise in the halls.	.45
Kissing outside of class on school property.	.44
Failing to be adequately clean.	.43

Table 75

Primary Factor Pattern

Questionnaire 4 (F) - Factor VIII

FACTOR NAME: Cheating

VARIABLE	LOADING
Cheating on in-class assignment.	.78
Cheating on homework.	.72
Copyin work from nearby students.	.70
Copying assignments from other students.	.61
Cheating on tests.	.51
Failing to complete homework.	.47
Plagiarizing.	.45
Consistently losing books, assignments, etc.	.45
Excessive complaining about feeling ill (hypochondriac).	.42
Daydreaming in class.	.40

Table 76

Primary Factor Pattern

Questionnaire 4 (E) - Factor VIII

FACTOR NAME: Cheating

VARIABLE	LOADING
Cheating on in-class assignment.	.71
Copying work from nearby students.	.63
Cheating on homework.	.62
Copying assignments from other students.	.50
Cheating on tests.	.49

Table 77

Primary Factor Pattern

Questionnaire 4 (E) - Factor IX

FACTOR NAME: Lack of Classroom Cooperation

VARIABLE	LOADING
Complaining about grades.	.78
Asking irrelevant questions (not pertaining to content being discussed).	.56
Complaining about class or lab activities or assignments.	.55
Leaving desks or lockers messy.	.51
Combing hair in class.	.50
Using slang in class.	.49
Answering question in humorous, disruptive way	.47
Forgetting notebooks, textbooks, or other classroom materials.	.47
Consistently losing books, assignments, etc.	.45
Failing to follow directions for assignment.	.43

Table 78

Primary Factor Pattern

Questionnaire 4 (E) - Factor X

FACTOR NAME: Inattentiveness

VARIABLE	LOADING
Slouching or otherwise sitting inappropriately in seat.	.65
Refusing to participate in class activities or assignments.	.65
Putting books or papers away too soon.	.59
Gossiping among students.	.54
Reading, writing, etc., while teacher is talking.	.50
Whispering, or nonverbally communicating at inappropriate times.	.48
Refusing to take lecture notes.	.46
Talking out while class is working quietly.	.43
Clicking pens, or making other similar noises with small objects.	.41
Making distracting noises with chairs, desks, and other equipment.	.40

Table 79

Primary Factor Pattern

Questionnaire 4 (E) - Factor XI

FACTOR NAME: Rebelliousness

VARIABLE	LOADING
Rebelling against teacher authority.	.86
Not obeying teacher's directions or orders.	.78
Sassing or speaking rudely to teacher.	.73
Arguing with teacher.	.51
Deliberately trying to upset the teacher by misbehaving.	.45

Table 80

Primary Factor Pattern

Questionnaire 4 (E) - Factor XII

FACTOR NAME: Disrespect Toward Other Students

VARIABLE	LOADING
Making fun of another student.	.80
Making fun of mistakes of other students.	.77
Showing disrespect for another student's opinion.	.68
Student dominating the class discussions.	.55
Pulling pranks against another student.	.50

Table 81

Primary Factor Pattern

Questionnaire 4 (A) - Factor XIII

FACTOR NAME: Messiness

VARIABLE	LOADING
Leaving laboratory or storage area messy.	.66
Failing to put away material after use.	.60
Throwing refuse on floor.	.54
Turning in a messy project.	.49

Table 82

Primary Factor Pattern

Questionnaire 4 (L) - Factor IXV

FACTOR NAME: Common Minor Misbehaviors

VARIABLE	LOADING
Carrying cigarettes.	.68
Smoking on school grounds.	.60
Having arms around each other outside of class on school property.	.51
Chewing gum in class.	.48

Table 83

Primary Factor Pattern

Questionnaire 5 - Factor I

FACTOR NAME: Authoritarianism

VARIABLE	LOADING
My teacher seems to feel tense and on edge.	.94
My teacher ignores the suggestions of students.	.83
My teacher ignores ideas that come from students.	.76
My teacher's comments tend to disrupt a student's train of thought.	.73
My teacher gives students time to think at their own pace.	.72
My teacher makes fun of students' ideas.	.65
My teacher acts in a very superior manner toward students.	.64
My teacher solves problems or issues right on the spot.	.54
My teacher reaches students with his words.	.53
My teacher gives short, direct, and complete explanations.	.53
My teacher makes quick, accurate, and meaningful decisions in front of the class.	.51
My teacher makes students tense and on edge.	.45
My teacher tries to draw all students into class discussions and activities.	-.44
My teacher looks down upon students.	.40

Table 84

Primary Factor Pattern

Questionnaire 5 - Factor II

FACTOR NAME: Hostility

VARIABLE	LOADING
My teacher is mean to students.	.90
My teacher talks down to students.	.87
My teacher is somewhat cold towards students.	.87
My teacher misses the ideas students try to get across.	.82
My teacher does things that make the students angry.	.70
My teacher looks down upon students.	.68
My teacher gets up-tight by student's smart remarks and actions.	.67
My teacher makes students tense and on edge.	.51
My teacher tries to sell himself to the class.	.46

Table 85

Primary Factor Pattern

Questionnaire 5 - Factor III

FACTOR NAME: Friendliness

VARIABLE	LOADING
My teacher talks to young people on informal occasions such as after-school activities.	.83
My teacher informally talks with students before and after class.	.82
My teacher takes students' ideas.	.81
My teacher is able to understand the way students speak.	.75
My teacher understand students' ideas.	.72
My teacher gives and takes in the classroom.	.69
My teacher sees himself as a teacher of young people instead of a particular subject.	.65
My teacher is able to keep up with the student's ideas.	.65
My teacher is understanding about students' problems.	.63
My teacher has a great liking for students.	.47

Table 86

Primary Factor Pattern

Questionnaire 5 - Factor IV

FACTOR NAME: Student Orientation

VARIABLE	LOADING
My teacher faces problems of discipline quickly and directly.	.95
My teacher regards students as individuals and accepts their differences.	.84
My teacher takes each step one at a time, leaving no gaps in the class's understanding.	.73
My teacher works along with students in class activities.	.69
My teacher shows understanding and sincerity in the tone of his voice.	.67
My teacher tries to draw all students into class discussions and activities.	.60
My teacher spends time in class teaching students how to live and learn together.	.55
My teacher makes quick, accurate, and meaningful decisions in front of the class.	.52
My teacher solves problems or issues right on the spot.	.41

Table 87

Primary Factor Pattern

Questionnaire 5 - Factor V

FACTOR NAME: Dynamism

VARIABLE	LOADING
My teacher, when explaining something, has the facts at his fingertips.	.71
My teacher, when he wants, gets the students' attention.	.70
My teacher shows a drive or force which is felt by his students.	.68
My teacher show confidence and pride in his work.	.67
My teacher has his own style which shows his true personality.	.60
My teacher acts calm and organized when he is teaching.	.52
My teacher spends time in class teaching students how to live and learn together.	-.41

Table 88

Primary Factor Pattern

Questionnaire 5 - Factor VI

FACTOR NAME: Effectiveness

VARIABLE	LOADING
My teacher treats each student in the class the same.	.91
My teacher explains things so that most students in the class understand.	.80
My teacher really tries to explain ideas clearly to students.	.70
My teacher is friendly to students.	.60
My teacher greatly encourages and works hard with students.	.56
My teacher acts calm and organized when he is teaching.	.51
My teacher maintains open and direct contact with all members of the class.	.45
My teacher has a great liking for students.	.41
My teacher is understanding about students' problems.	.41

Table 89

Correlations Among Primary Factors

Questionnaire 2 (E)

		VC	IIIB	IE	VA	II	IV
VC.	Understanding and Anticipating Student Discipline Problems	-					
IIIB.	Performance-Oriented Evaluation	.46	-				
IE.	Student-Centered and Individualized Instruction	.39	.45	-			
VA.	Handling Student Discipline Problems	-	.35	.37	-		
II.	Non-Directive Instruction	-	.40	-	-	-	
IV.	Lesson Preparation	-	-	.45	-	-	-

Table 90

Correlations Among Primary Factors

Questionnaire 3 (I)

		IA	IVA	V	III	II	VI	VII
IA.	Student Counseling	-						
IVA.	Administrative Activities	.47						
V.	Audiovisual Equipment Operation	.35	.41					
III.	Professional Activities	.36	.38	.32				
II.	Materials and Equipment Management	.33	-	.36	.32			
VI.	Miscellaneous Non-Instructional Materials	-	-	-	-	-	-	
VII.	Laboratory Safety Activities	-	-	-	-	-	-	-

Table 91

Correlations Among Primary Factors

Questionnaire 3 (E)

		III	IVB	VI	V	II	VII	IB
III.	Professional Activities	-						
IVB.	Student Job Placement Activities	.39	-					
VI.	Miscellaneous Non-Instructional Activities	.37	.47	-				
V.	Audiovisual Equipment Operation	.33	-	-	-			
II.	Materials and Equipment Management	-	-	-	.49	-		
VIII.	Interpersonal Relationships	-	-	-	-	-	-	-
IB.	Formal Student Counseling	-	-	-	-	-	-	-

Table 92

Correlations Among Primary Factors

Questionnaire 4 (I)

		I	II	IV	V	VI	VII	IIIA
IA.	Criminal and Quasi-Criminal Misbehavior	-						
II.	Verbal and Symbolic Misbehavior	.65	-					
IV.	Inconsiderate and Negligent Behavior	.53	.63	-				
V.	Improper Appearance	.41	.59	.55	-			
VI.	Neglect of School Work	.39	.54	.55	.59	-		
VII.	Grooming in Class	-	.32	-	-	-	-	-
IIIA.	Destructive and Unsafe Misbehavior	-	-	-	-	-	-	-

Table 93

Correlations Among Primary Factors

Questionnaire 4 (F)

		VIII	V
VIII.	Cheating	-	
V.	Improper Appearance	.43	-

Table 94

Correlations Among Primary Factors

Questionnaire 4 (E)

		IX	X	XI	XII	XIII	VIII	IXV
IX.	Lack of Classroom Cooperation	-						
X.	Inattentiveness	.49	-					
XI.	Rebelliousness	.41	.41	-				
Xii.	Disrespect Toward Other Students	.44	.42	.39	-			
XIII.	Messiness	.47	.37	.35	.32	-		
VIII.	Cheating	.35	-	-	-	-	-	
IXV.	Common Minor Misbehaviors	-	-	-	-	-	-	-

Table 95

Correlations Among Primary Factors

Questionnaire 5

		II	III	IV	VI	V	I
II.	Hostility	-					
III.	Friendliness	-.32	-				
IV.	Student Orientation	-.33	.52	-			
VI.	Effectiveness	-.46	.55	.53	-		
V.	Dynamism	-	.37	-	-	-	
I.	Authoritarianism	-	-	-	-	.33	-